

**WHAT IS CLAIMED IS:**

1. A pesticidal composition comprising, in admixture with an acceptable carrier, at least one plant essential oil compound or derivative thereof and an enzyme inhibitor.

5 2. The pesticidal composition of claim 1, wherein the enzyme inhibitor is a Phase I and/or Phase II drug metabolizing enzyme inhibitor.

3. The pesticidal composition of claim 1, wherein the plant essential oil or derivative thereof, comprises a monocyclic, carbocyclic ring structure having six-members and substituted by at least one oxygenated or hydroxyl functional moiety.

10 4. The pesticidal composition of claim 1, wherein the enzyme inhibitor is selected from the group consisting of piperonyl butoxide, MGK 264, and sesamex.

5. The pesticidal composition of claim 1 wherein the plant essential oil compounds or derivatives thereof are selected from the group consisting of aldehyde C16 (pure),  $\alpha$ -terpineol, amyl cinnamic aldehyde, amyl salicylate, anisic aldehyde, benzyl alcohol, benzyl acetate, 15 cinnamaldehyde, cinnamic alcohol, carvacrol, carveol, citral, citronellal, citronellol, p-cymene, diethyl phthalate, dimethyl salicylate, dipropylene glycol, eucalyptol (cineole) eugenol, iso-eugenol, galaxolide, geraniol, guaiacol, ionone, menthol, methyl anthranilate, methyl ionone, methyl salicylate,  $\alpha$ -phellandrene, pennyroyal oil perillaldehyde, 1- or 2-phenyl ethyl alcohol, 1- or 2-phenyl ethyl propionate, piperonal, piperonyl acetate, 20 piperonyl alcohol, D-pulegone, terpinen-4-ol, terpinyl acetate, 4-tert butylcyclohexyl acetate, thyme oil, thymol, metabolites of trans-anethole, vanillin, and ethyl vanillin.

6. A method for controlling pests, which comprises applying to the locus where control is desired a pesticidally-effective amount of the composition of claim 1.

7. A pesticidal composition comprising, in admixture with an acceptable carrier, at least one plant essential oil or derivative thereof and an enzyme inhibitor, and at least one synergist.

25 8. The pesticidal composition of claim 7, wherein the enzyme inhibitor is a Phase I and/or Phase II drug metabolizing enzyme inhibitor.

9. The pesticidal composition of claim 7, wherein the plant essential oil or derivative thereof, comprises a monocyclic, carbocyclic ring structure having six-members and substituted by at least one oxygenated or hydroxyl functional moiety.

10. The pesticidal composition of claim 7, wherein the enzyme inhibitor is selected from the group consisting of piperonyl butoxide, MGK 264, and sesamex.

11. The pesticidal composition of claim 7, wherein the plant essential oil compounds or derivatives thereof are selected from the group consisting of aldehyde C16 (pure),  $\alpha$ -terpineol, amyl cinnamic aldehyde, amyl salicylate, anisic aldehyde, benzyl alcohol, benzyl acetate, cinnamaldehyde, cinnamic alcohol, carvacrol, carveol, citral, citronellal, citronellol, p-cymene, diethyl phthalate, dimethyl salicylate, dipropylene glycol, eucalyptol (cineole) eugenol, iso-eugenol, galaxolide, geraniol, guaiacol, ionone, menthol, methyl anthranilate, methyl ionone, methyl salicylate,  $\alpha$ -phellandrene, pennyroyal oil perillaldehyde, 1- or 2-phenyl ethyl alcohol, 1- or 2-phenyl ethyl propionate, piperonal, piperonyl acetate, piperonyl alcohol, D-pulegone, terpinen-4-ol, terpinyl acetate, 4-tert butylcyclohexyl acetate, thyme oil, thymol, metabolites of trans-anethole, vanillin, and ethyl vanillin.

12. The pesticidal composition of claim 7, wherein the synergist is a member selected from the group consisting of pyrethrolone, allethrolone, chrysanthemic acid, chrysanthemyl alcohol, chrysanthemate ester, cis-jasmone, tetrahydrofurfuryl alcohol (THFA), forskolin, Lavandustin A, and PD 98059 (flavone).

13. A method for controlling pests, which comprises applying to the locus where control is desired a pesticidally-effective amount of the composition of claim 7.

14. A pesticidal composition comprising, in admixture with an acceptable carrier, an enzyme inhibitor and at least one synergist.

15. The pesticidal composition of claim 14, wherein the enzyme inhibitor is selected from the group consisting of piperonyl butoxide, MGK 264, and sesamex.

16. The pesticidal composition of claim 14, wherein the synergist is a member selected from the group consisting of pyrethrolone, allethrolone, chrysanthemic acid, chrysanthemyl alcohol, chrysanthemate ester, cis-jasmone, tetrahydrofurfuryl alcohol (THFA), forskolin, Lavandustin A, and PD 98059 (flavone).

~~for control  
toxicity-~~

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DATE	DESCRIPTION	AMOUNT	BALANCE
1911	Jan 1		100.00
1912	Feb 1	50.00	150.00
1913	Mar 1	25.00	175.00
1914	Apr 1	75.00	250.00
1915	May 1	100.00	350.00
1916	Jun 1	125.00	475.00
1917	Jul 1	150.00	625.00
1918	Aug 1	175.00	800.00
1919	Sep 1	200.00	1000.00
1920	Oct 1	225.00	1225.00
1921	Nov 1	250.00	1475.00
1922	Dec 1	275.00	1750.00
1923	Jan 1	300.00	2050.00
1924	Feb 1	325.00	2375.00
1925	Mar 1	350.00	2725.00
1926	Apr 1	375.00	3100.00
1927	May 1	400.00	3500.00
1928	Jun 1	425.00	3925.00
1929	Jul 1	450.00	4375.00
1930	Aug 1	475.00	4850.00
1931	Sep 1	500.00	5350.00
1932	Oct 1	525.00	5875.00
1933	Nov 1	550.00	6425.00
1934	Dec 1	575.00	7000.00
1935	Jan 1	600.00	7600.00
1936	Feb 1	625.00	8225.00
1937	Mar 1	650.00	8875.00
1938	Apr 1	675.00	9550.00
1939	May 1	700.00	10250.00
1940	Jun 1	725.00	10975.00
1941	Jul 1	750.00	11725.00
1942	Aug 1	775.00	12500.00
1943	Sep 1	800.00	13300.00
1944	Oct 1	825.00	14125.00
1945	Nov 1	850.00	14975.00
1946	Dec 1	875.00	15850.00
1947	Jan 1	900.00	16750.00
1948	Feb 1	925.00	17675.00
1949	Mar 1	950.00	18625.00
1950	Apr 1	975.00	19600.00
1951	May 1	1000.00	20600.00
1952	Jun 1	1025.00	21625.00
1953	Jul 1	1050.00	22675.00
1954	Aug 1	1075.00	23750.00
1955	Sep 1	1100.00	24850.00
1956	Oct 1	1125.00	25975.00
1957	Nov 1	1150.00	27125.00
1958	Dec 1	1175.00	28300.00
1959	Jan 1	1200.00	29500.00
1960	Feb 1	1225.00	30725.00
1961	Mar 1	1250.00	31975.00
1962	Apr 1	1275.00	33250.00
1963	May 1	1300.00	34550.00
1964	Jun 1	1325.00	35875.00
1965	Jul 1	1350.00	37225.00
1966	Aug 1	1375.00	38600.00
1967	Sep 1	1400.00	40000.00
1968	Oct 1	1425.00	41425.00
1969	Nov 1	1450.00	42875.00
1970	Dec 1	1475.00	44350.00
1971	Jan 1	1500.00	45850.00
1972	Feb 1	1525.00	47375.00
1973	Mar 1	1550.00	48925.00
1974	Apr 1	1575.00	50500.00
1975	May 1	1600.00	52100.00
1976	Jun 1	1625.00	53725.00
1977	Jul 1	1650.00	55375.00
1978	Aug 1	1675.00	57050.00
1979	Sep 1	1700.00	58750.00
1980	Oct 1	1725.00	60475.00
1981	Nov 1	1750.00	62225.00
1982	Dec 1	1775.00	64000.00
1983	Jan 1	1800.00	65800.00
1984	Feb 1	1825.00	67625.00
1985	Mar 1	1850.00	69475.00
1986	Apr 1	1875.00	71350.00
1987	May 1	1900.00	73250.00
1988	Jun 1	1925.00	75175.00